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imum reverse channel energy per bit to total interference spectral density ratio is greater than the desired reverse channel energy per bit to total interference spectral density ratio.

17. The method of claim 16 wherein each of the energy per bit to total interference spectral density ratios is determined by an  $E_b/I_o$  of the reverse channel.

18. The method of claim 16 wherein each of the energy per bit to total interference spectral density ratios is determined by a  $P_r/I_{No}$  of the reverse channel.

19. The method of claim 16 wherein each of the energy per bit to total interference spectral density ratios is determined by a scaled version of an  $E_b/I_o$  of the reverse channel.

20. A method for controlling power output of a first remote transmitter of a plurality of remote transmitters, each remote transmitter being part of a mobile radiotelephone, the plurality of mobile radiotelephones receiving data packets from a cellular base station over a forward channel, the cellular base station receiving data packets from the plurality of mobile radiotelephones over a reverse channel, the reverse channel having a maximum energy per bit to total interference spectral density ratio, the data packets being comprised of frames, the method comprising the steps of:

determining a desired reverse channel energy per bit to total interference spectral density ratio;

determining a energy per bit to total interference spectral density ratio on the reverse channel for each of the remote transmitters, thereby creating a plurality of energy per bit to total interference spectral density ratios;

summing the plurality of energy per bit to total interference spectral density ratios to produce a summation value;

determining a minimum reverse channel energy per bit to total interference spectral density ratio for the plurality of mobile radiotelephones;

comparing the maximum reverse channel energy per bit to total interference spectral density ratio to the summation value;

comparing the minimum reverse channel energy per bit to total interference spectral density ratio to the desired energy per bit to total interference spectral density ratio; and

the base station instructing the first remote transmitter to increase power if the summation value is less than the maximum reverse channel energy per bit to total interference spectral density ratio and the minimum reverse channel energy per bit to total interference spectral density ratio is less than or equal to the desired reverse channel energy per bit to total interference spectral density ratio.

21. The method of claim 20 and further including the step of the base station adjusting the minimum reverse channel energy per bit to total interference spectral density ratio depending on reverse channel conditions.

22. The method of claim 20 and further including the step of adjusting the maximum reverse channel energy per bit to total interference spectral density ratio in response to an increase or decrease in the quantity of the plurality of radiotelephones.

23. A method for controlling transmit power of a plurality of radios, the plurality of radios communicating with a base station, the method comprising the steps of:

the base station determining the transmit power required from each radio of the plurality of radios;

the base station transmitting a power control message multiplexed into a series of power control slots, each of

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said power control slots including power control information instructing each radio within an associated subset of said plurality of radios to alter its transmit power;

the base station instructing each radio within the same said associated subset to monitor said power control information in a same one of said power control slots.

24. A method for controlling transmit power of a plurality of radios using a power control message provided by a base station, the method comprising the steps of:

receiving, at more than one of said plurality of radios, instructions to monitor the same selected portion of said power control message; and

receiving, at said more than one of said plurality of radios, power control information within said same selected portion of said power control message, said power control information instructing each of said more than one of said plurality of radios to alter its transmit power in response to a required transmit power.

25. A method for controlling transmit power of a plurality of radios using a power control message provided by a base station, the method comprising the steps of:

transmitting, from said base station, instructions indicating that a subset said radios monitor the same selected portion of said power control message; and

transmitting, from said base station, power control information within said same selected portion of said power control message, said power control information indicating that transmission power of each of said more than one of said plurality of radios should be altered in response to a required transmit power.

26. A method for controlling transmit power of a plurality of radios, the plurality of radios communicating with a base station, the method comprising the steps of:

the base station determining the transmit power required from each radio of the plurality of radios;

the base station instructing a first subset of said plurality of radios to monitor a first power control bit stream, and a second subset of said plurality of radios to monitor a second power control bit stream; and

the base station transmitting said first and said second power control bit streams to instruct each of the plurality of radios in the first and second subsets of said plurality of radios to alter its transmit power in response to the required transmit power.

27. A method for controlling transmit power of a plurality of radios, the plurality of radios communicating with a base station, the method comprising the steps of:

the base station determining the transmit power required over a reverse channel from each radio of the plurality of radios; and

the base station transmitting a single power control bit stream to the more than one of said plurality of radios to instruct each of the more than one of said plurality of radios to alter its transmit power in response to the required transmit power and in response to a maximum total reverse channel signal quality metric;

wherein said maximum total reverse channel signal quality metric is set based upon a sum of reverse channel signal quality metrics associated with said plurality of radios.

28. A method for controlling a power output of a remote transmitter in a first mobile radio of a plurality of mobile radios, the first mobile radio receiving signals from a base station over a forward channel, the base station receiving